

Brian MOZELACK et al
Serial No. 09/941,665
October 6, 2003

REMARKS

Favorable reconsideration and allowance of this application are requested. In this regard, the comments which follow are intended to be in complete response to the issues raised in the Official Action dated May 7, 2003 (hereinafter "the May 7th Action").

Before addressing the substantive inappropriateness of the art-based rejections, the Examiner will observe that the cross-reference to the related parent applications has been updated.

A title which is believed more commensurate with the subject matter now being prosecuted has been presented.

By way of the Amendment instructions above, independent claim 12 has been revised so as to clarify the subject matter defined thereby. Specifically, claim 12 has been amended so as to emphasize that the method forms non-woven "cords" which are substantially planar ribbon-shaped multiple fiber structures. Such "cords" thus include multiple melt-blown continuous length thermoplastic fibers coalesced substantially side-by-side to one another along at least lengthwise axially extended portions of their respective peripheral surfaces. Support for such language may be found in the originally filed specification at page 11, lines 21-27, for example, as well as the photomicrograph of FIGURES 10A and 10B.

The present invention is novel in many respects. For example, the present invention is novel in that melt-blown non-woven cords may be made to form a core element useful for filtration cartridges. In this regard, the core elements are formed by the attenuation of molten polymer extruded through appropriately sized orifices in the melt-spinning die. By controllably configuring the melt-spinning parameters, core

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elements are formed which are comprised of a tubular mass of non-woven, continuous length, thermoplastic cords forming an open, non-filtering matrix. Importantly, the cords themselves are in the form of substantially planar ribbon-shaped multiple fiber structures which include multiple melt-blown continuous length thermoplastic fibers coalesced substantially side-by-side to one another along at least lengthwise axially extended portions of their respective peripheral surfaces.

The Examiner has asserted that the herein pending claims 12, 14 and 15 are anticipated under 35 USC §102(b) from USP 5,366,576 to Clack. In addition, Allen et al (USP 5,772,952) has been combined with Clack to reject all remaining claims under 35 USC §103(a). Applicants emphatically disagree.

There clearly is no contemplation or suggestion at all in Clack that the streams 24 issuing from the die assembly 26 would, or could, be in the form of substantially planar ribbon-shaped multiple fiber structures which include multiple melt-blown continuous length thermoplastic fibers coalesced substantially side-by-side to one another along at least lengthwise axially extended portions of their respective peripheral surfaces, as defined by claim 12 pending herein. All that Clack can fairly be said to disclose is that such streams 24 are being issued from the die assembly 26 in a conventional manner well known in the melt-blown fiber-forming art so as to form depth filter cartridges. Hence, Clack cannot anticipate claims 12, 14 and/or 15 pending herein.

Nor are the claims "obvious" over the combination of Clack and Allen et al. In this regard, the discussion above regarding the total lack of suggestion in Clack of forming planar ribbon-shaped multiple fiber structures is equally germane to the issue of **unobviousness** of this invention.

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Allen et al fails to cure the deficiencies of Clack. Specifically, Allen et al merely discloses that melt-blown filaments may have a size range from 0.5 to 10 microns and may be formed from polyesters and polyolefins. Applicants do not dispute that melt-blown fibers having such size range have been made in the past from a variety of melt-blowable polymeric materials. Applicants emphatically dispute, however, that Allen et al somehow discloses that multiple such melt-blown fibers may be coalesced substantially side-by-side to one another along at least lengthwise axially extended portions of their respective peripheral surfaces so as to form substantially planar ribbon-shaped structures. Allen et al simply does not disclose or suggest such a technical concept at all. As such, Allen et al in combination with Clack fails to render obvious those claims dependent from independent claim 12.

The Examiner seems to also be of the opinion that, although not specifically disclosed in either Clack or Allen et al, many of the techniques claimed, for example, in independent claims 24, 31 and 41 are nonetheless "...within the purview of one having ordinary skill in the art." Applicants suggest that such a position amounts to reversible error.

Specifically, the Examiner has proffered no **facts** which support his position of "obviousness" with respect to the subject matter defined by independent claims 24, 31 and/or 41, for example. Without **facts** to support such a position, therefore, the basis of the "obviousness" rejection becomes nothing more than erroneous Examiner speculation which has uniformly been condemned by the reviewing Courts.¹ Of course, if such facts are in the Examiner's personal knowledge, then he is respectfully requested to supply an appropriate affidavit of the same pursuant to 37 CFR §1.104(d)(2).

¹ See, *In re Katzaschmann*, 146 USPQ 66 (CCPA 1965).

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Further responding, applicants note that step (b) of independent claim 24 specifically requires the preform to be cooled by "...continuously axially translating the preform through a cooling sub-system **wherein cooling air is brought into contact therewith**". Clack clearly does not contemplate at all bringing cooling air into contact with the preform. In fact, Clack **heats** the preform via heaters 110, 112. Such disclosure is not only the antithesis of the claimed subject matter of independent claim 24, it is also evidence that such claimed subject matter is **unobvious** from Clack. Allen et al similarly is completely silent with regard to such a process step and hence cannot be relied upon to cure such deficiency in Clack.

Independent claim 31 requires in step (d) that the preform be severed by **simultaneously moving** a cutting device **parallel and perpendicular** concurrently with the rotation and axial translation of the preform. With respect to the saw 34 of Clack, it is noted only that:

"Saw 34...may be any conventional cutting element capable of cutting the tube 76 as the tube moves axially with respect to the frame 36." (Column 5, lines 16-20)

Similarly, at column 7, lines 52-54, Clack notes that the saw 234 associated with the embodiment shown in FIGURE 7 is "...identical to that of the [saw 34 of the] first embodiment."

Applicants do not dispute that saws generally have been provided in the past so as to sever a length of tubular melt-blown filter media as it axially moves axially. Such conventional saws, however, are known to be mounted reciprocally to be moveable towards and away from the tubular melt-blown filter media transverse to the latter's axial movement. See in this regard, U.S. Patent No. 5,591,335 of record herein.

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Significantly, however, there is no disclosure or suggestion in Clack of ***simultaneous*** movements of a cutting device both (1) parallel to the longitudinal axis of the preform, ***and*** (2) toward and away from the preform perpendicularly relative to the longitudinal axis thereof. Thus, all that Clack can fairly be said to disclose is a “conventional” saw which, as noted previously, on the basis of the present record means only a cutting device which moves reciprocally transversely towards and away from the tubular melt-blown filter media – ***not*** simultaneous reciprocal transverse ***and*** longitudinal movements as defined in the pending claims.

Again, Allen et al bears no pertinence to the claimed subject matter of claim 31 as no tubular preform, let alone a cutting means to sever the same, is disclosed therein.

Finally, with respect to independent claim 41, step (c) requires that the filter cartridge severed from a length of cartridge preform to be brought ***between a pair*** of ultrasonic horns so as to finish the ***opposed terminal ends*** of the filter cartridge. Clack merely teaches that heated rollers, 110, 112 and 114 may be employed ***prior to the filter cartridge 22 being cut from the upstream preform***. Hence, not only does Clack ***not*** disclose the use of ultrasonic horns (between which the filter cartridge may be placed) so as to “dress” its terminal ends, the finishing step employed by Clack is ***prior to*** cutting of the filter cartridge. Thus, the heated rollers 110, 112 and 114 cannot possibly finish the terminal end portions of Clack’s filter cartridge 22, but instead only operate to finish the external peripheral surface of the cartridge preform.

Yet again, Allen et al bears no pertinence to the claimed subject matter of claim 31 as no “finishing” of any tubular filter cartridge is disclosed, let alone finishing of the terminal ends of such cartridge by use of a pair of ultrasonic horns. Indeed, the only “finishing” steps disclosed in Allen et al include twisting the yarn via twister 13 and the application of a lubricating liquid via lubricator roll 19.

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In view of the amendments and remarks above, therefore, it is suggest that all claims now pending herein are unequivocally patentably distinguishable over the applied Clack reference, either alone or in combination with Allen et al. As such, early receipt of the Official Allowance Notice is solicited.

Respectfully submitted,

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